

Message

From: Chun Yi Wu [chun.yi.wu@state.mn.us]
Sent: 8/7/2017 4:48:36 PM
To: Cheryl Emery [cbemery@mmm.com]
Subject: RE: 2014 ATEI - 2701500039

Thanks for the update. Good to hear.

From: Cheryl Emery [mailto:cbemery@mmm.com]
Sent: Monday, August 07, 2017 11:20 AM
To: Wu, Chun Yi (MPCA)
Subject: RE: 2014 ATEI - 2701500039

Hi Chun Yi,
We have a few more units to produce so production should be done this month – August 2017.
Please let me know if you have any additional questions.
Thanks,
Cheryl



Cheryl B. Emery | EHS & Security Supervisor, CSP, ASP
3M New Ulm Plant
New Ulm, 3M Bldg 1, 1700 Minnesota Street | New Ulm, MN 56073
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From: Wu, Chun Yi (MPCA) [mailto:chun.yi.wu@state.mn.us]
Sent: Monday, August 07, 2017 11:09 AM
To: Cheryl Emery <cbemery@mmm.com>
Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

Could you confirm the 3M already shut down the EtO operation in June 2017? Thanks.

Chun Yi

From: Cheryl Emery [mailto:cbemery@mmm.com]
Sent: Friday, February 10, 2017 2:20 PM
To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>
Subject: RE: 2014 ATEI - 2701500039

Chun Yi,

This looks good. I am happy to help and thanks for the summary.

Take care,

Cheryl



Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]

Sent: Friday, February 10, 2017 2:13 PM

To: Cheryl Emery <cbemery@mmm.com>

Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

It was very nice to talk with you. I will use the following to summarize our effort on the review of 2014 emissions for ethylene oxide from the 3M - New Ulm - Electrical Products Division:

1. The originally reported emissions of EtO, 0.09 Tons, are right.
2. The emissions originally were reported for SCC 30800699. It should be for SCC 31502001.
3. The release of emissions was through 4 each ¾" copper lines housed within a 4.75" pipe running through the roof of the building, ~10 foot high. The exhaust velocity would be close to 0 due to the elbow in the release point (goose neck). The exhaust temperature is 131F.
4. 3M will shut down the operation in June 2017.

Please let me know if I missed anything. I really appreciate your help.

Chun Yi Wu, Ph.D., P.E.

Principal Engineer

Minnesota Pollution Control Agency

Environmental Analysis & Outcomes Division

520 Lafayette Road North

St. Paul, MN 55155

Phone: 651-757-2833

Fax: 651-297-7709

Email: chun.yi.wu@state.mn.us

From: Cheryl Emery [<mailto:cbemery@mmm.com>]

Sent: Friday, February 10, 2017 12:04 PM

To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>

Subject: RE: 2014 ATEI - 2701500039

Hi Chun Yi,

Sorry for my delay but I just got out of all the meetings that I had this morning. I can make 1:30pm work this afternoon. I will call you at 651-757-2833

Thanks,
Cheryl



Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]

Sent: Friday, February 10, 2017 7:33 AM

To: Cheryl Emery <cbemery@mmm.com>

Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

I got your voice message. It is better for us to discuss via phone. May I call you at 1:30 PM this afternoon?

I want to find out the release characteristics for EtO. Hope the findings could reduce the health risks caused by the EtO emissions. Thanks.

Chun Yi

From: Cheryl Emery [<mailto:cbemery@mmm.com>]

Sent: Friday, February 10, 2017 6:56 AM

To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>

Subject: RE: 2014 ATEI - 2701500039

Chun Yi,

I am sorry for the confusion. I added in the exhaust #5 which is the EtO cabinet that we store the small canisters of EtO which we also exhaust.

During testing, they hook up the ¾" cooper line to the exhaust. Each one of them exhaust to the roof.

The EtO cabinet that is also exhausted (Exhaust fan #5), has a 3" vent that goes into a different stack (#8). Theoretically, there should not be any EtO in the cabinet but we exhaust as a precaution.

I just left you a voice mail. I am in meetings all morning and won't be available until 1pm.
Please let me know if you still want to talk more about this.
Thanks,
Cheryl



Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]

Sent: Thursday, February 09, 2017 2:52 PM

To: Cheryl Emery <cbemery@mmm.com>

Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

Sorry, I am little confused. You mentioned the 4 each ¾" copper lines running through the roof of the building. I just want to know the exhaust air flowrate for those 4 lines that emit ethylene oxide.

Are all these 4 each ¾" copper lines in the image you e-mailed to me?

Please call me when you have time. My phone number is 651-757-2833. Thanks.

Chun Yi

From: Cheryl Emery [<mailto:cbemery@mmm.com>]

Sent: Thursday, February 09, 2017 2:42 PM

To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>

Subject: RE: 2014 ATEI - 2701500039

Sorry about that Chun Yi.

This is what we have for the airflow for our exhaust fans:

Exhaust fan #1: 1600 fpm

Exhaust fan #2: 1550 fpm

Exhaust fan #3: 1674 fpm

Exhaust fan #4: 1680 fpm

Exhaust fan #5: 1895 fpm (ETO Cabinet)

Please let me know if you need anything else.

Thanks,

Cheryl



Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]

Sent: Wednesday, February 08, 2017 4:21 PM

To: Cheryl Emery <cbemery@mmm.com>

Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

The exhaust air flow rate needs to be in cubic feet per minute or cubic feet per second. Psi is a unit for pressure, not air flowrate. Thanks.

Chun Yi

From: Cheryl Emery [<mailto:cbemery@mmm.com>]

Sent: Wednesday, February 08, 2017 12:33 PM

To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>

Subject: RE: 2014 ATEI - 2701500039

Hi Chun Yi,

Here are the answers to your questions:

What is the exhaust temperature? 55 degrees C

What is the air flowrate for each line? 60 psi

Please let me know if you have any further questions.

Thanks,

Cheryl



Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]

Sent: Wednesday, February 08, 2017 8:11 AM

To: Cheryl Emery <cbemery@mmm.com>

Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

Thanks for the detailed information to illustrate the ventilation. I see the insulation outside of the copper lines. What is the exhaust temperature? What is the air flowrate for each line?

Chun Yi

From: Cheryl Emery [<mailto:cbemery@mmm.com>]

Sent: Tuesday, February 07, 2017 3:47 PM

To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>

Subject: FW: 2014 ATEI - 2701500039

Hi Chun Yi,

This is information I have regarding the stack parameters and number of stacks:

There are 4 each ¾" copper lines running through the roof of the building

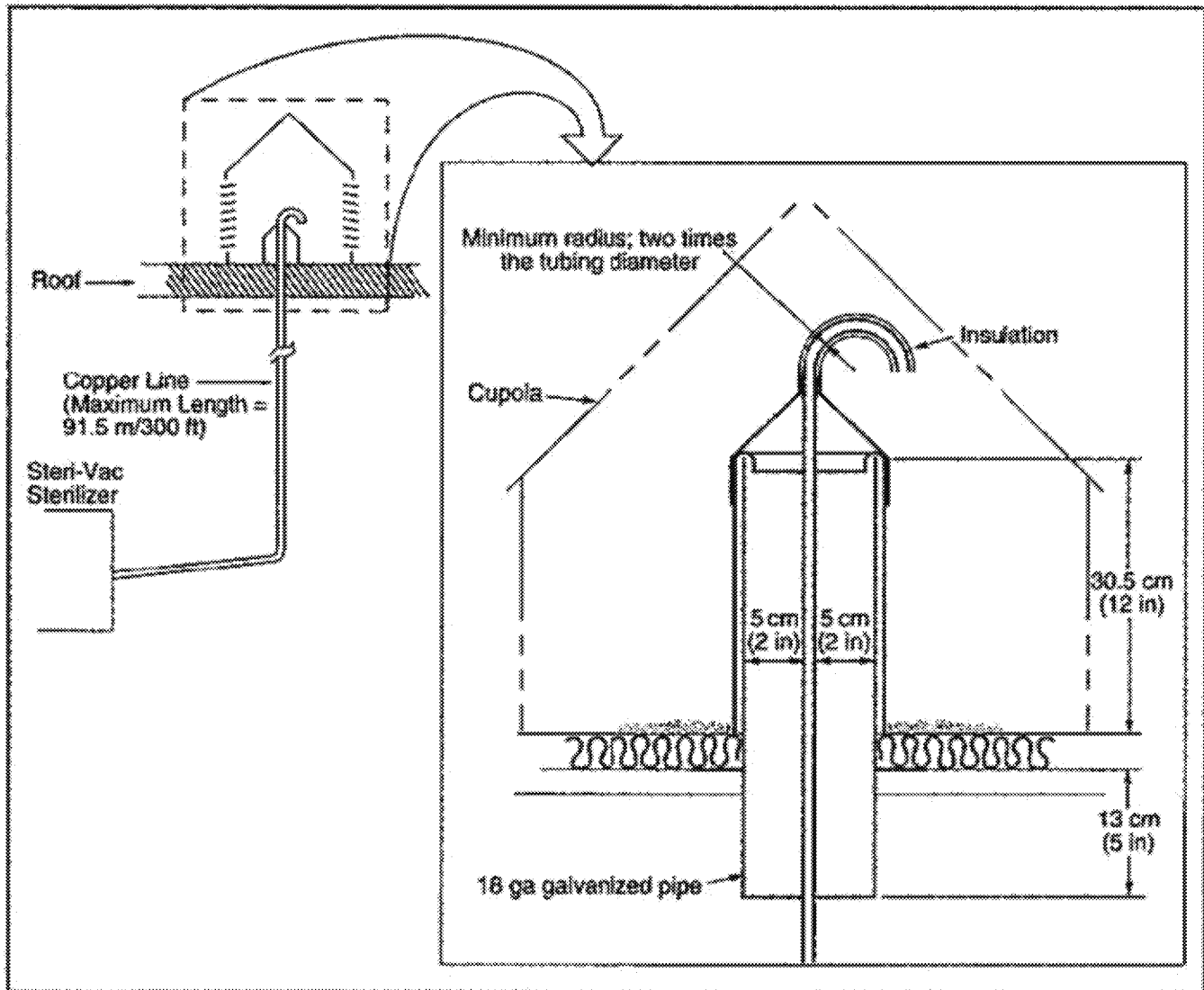


Figure 9. Ethylene Oxide Vertical Vent Line Installation (Example).

The picture shows the vent stack on the roof which is ~10 foot high.

Please let me know if you need any additional information.

Thanks,
Cheryl

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From: Wu, Chun Yi (MPCA) [mailto:chun.yi.wu@state.mn.us]
Sent: Thursday, February 02, 2017 3:38 PM
To: Cheryl Emery <cbemery@mmm.com>
Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

Thanks a lot for your review. I will not change the emission value but the SCC. Do you have any idea regarding the stack parameters for the process? How many stacks do you have for the process? We have default values as follows:

| Type | Description | Stack Height (FT) | Stack Diameter (FT) | Exit Gas Flow Rate (ACFM) | Exit Gas Temperature (°F) |
|----------|--|-------------------|---------------------|---------------------------|---------------------------|
| Vertical | Imitation stack (default for SCC '30800699') | 33.3 | 1.7 | 3254.88 | 173.8 |
| Vertical | Imitation stack (default for SCC '31502001') | 40.77 | 1.224 | 1055.34 | 99.876 |

Originally, we used one imitation stack for SCC30800699. If you don't have any data, we will use one stack for SCC31502001.

Chun Yi

From: Cheryl Emery [mailto:cbemery@mmm.com]
Sent: Thursday, February 02, 2017 2:46 PM
To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>
Subject: RE: 2014 ATEI - 2701500039

Hi Chun Yi,

I have double-checked and the reported value of 0.09 tons of EtO emissions for 2014 is correct. The emissions are coming from a process that aligns with SCC code 31502001 (Industrial Processes | Photographic Equipment/Health Care/Laboratories | Health Care - Hospitals | Sterilization with Ethylene Oxide).

Please let me know if you have any further questions.

Best Regards,
Cheryl

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]
Sent: Friday, January 27, 2017 9:20 AM
To: Cheryl Emery <cbemery@mmm.com>
Subject: [EXTERNAL] RE: 2014 ATEI - 2701500039

Cheryl,

Thanks for the quick response. One week is fine with me.

Chun Yi

From: Cheryl Emery [<mailto:cbemery@mmm.com>]
Sent: Friday, January 27, 2017 9:18 AM
To: Wu, Chun Yi (MPCA) <chun.yi.wu@state.mn.us>
Subject: RE: 2014 ATEI - 2701500039

Hi Chun,

Yes, I will double check the reported EtO emissions in 2014. I will get back to you in approximately a week. Will this be ok?

Best Regards,

Cheryl

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Cheryl B. Emery | EHS & Security Supervisor

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From: Wu, Chun Yi (MPCA) [<mailto:chun.yi.wu@state.mn.us>]
Sent: Friday, January 27, 2017 9:15 AM
To: Cheryl Emery <cbemery@mmm.com>
Subject: [EXTERNAL] 2014 ATEI - 2701500039

Cheryl,

Although we are working on the 2016 EI now, EPA is using the 2014 AT emissions for the national air toxics assessment (NATA). EPA released an updated cancer health benchmark for Ethylene Oxide (EtO) in December 2016 (https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=1025). It was noticed that you reported 0.09 Tons of EtO emissions for Rubber and Miscellaneous Plastics Products, Other Fabricated Plastics (SCC 30800699). The emissions resulted in high health risks. Could you check and make sure the reported value is right? Thanks.

Chun Yi Wu, Ph.D., P.E.

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